PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Stewart et al.	) Group Art Unit: Unknown
Appl. No.	:	Not yet Assigned	)
Filed	:	Herewith	)
For	:	ANTI-CANCER COMPOUNDS AND METHODS RELATED THERETO	)
Examiner	:	Not yet Assigned	)

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231
Box: PATENT APPLICATION

Dear Sir:

In the Specification:

At page 1, after the title, please delete the first paragraph and replace it with the following new paragraph:

This application is a continuation of U.S. Patent Application Serial No. 09/378,019, filed August 19, 1999, which is hereby incorporated by reference in its entirety, and which claims priority to U.S. Provisional Application Serial No. 60/097,210, filed August 20, 1998, and U.S. Provisional Application Serial No. 60/141,169, filed June 25, 1999.

At page 1, line 10 of the specification, please add the following paragraph:

GOVERNMENT RIGHTS

This invention was made in part with government support under grant number NIH HL-26284, awarded by National Institutes of Health. The government has certain rights to this invention.

Please amend line 1 of Table 1 at page 20 to read as follows:

BK^d Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg (SEQ ID NO: 1)

Please add the sequence listing enclosed herewith to the end of the description, immediately following Table 6, at page 37.

In the Claims:

Please cancel claims 1-15.

Please add new Claims 16-84 as follows:

16. (New) A compound, or a pharmaceutically acceptable salt thereof, represented by a formula selected from the group consisting of: 2Nal-Atmp, Aca-2Nal-Atmp, Atcp-2Nal-Atmp, Atcp-OC2Y-Mapp, Atcp-OC2Y-Matp, Boc-2Nal-Atmp, Boc-2Nal-Atmp, Chc-OC2Y-Atmp, Cin-OC2Y-Matp, Ctim-Igl-Atmp, Dca-2Nal-Acep, Dca-2Nal-Atmp, Dhq-2Nal-Atmp, Dmac-2Nal-Ampz, Dmac-2Nal-Atmp, Dmac-2Nal-Thm, Dmac-BtA-Atmp, Dmac-OC2Y-Atmp, Dmac-OC2Y-Matp, Dns-OC2Y-Matp, Dns-OCIY-Matp, Dns-Tyr(Bzl)Atmp, Dpa-2Nal-Atmp, F5po-2Nal-Atmp, Gbz-2Nal-Atmp, Gun-2Nal-Apa, Gun-2Nal-GaP, Pac-2Nal-Atmp, Pac-2Nal-Ecap, Pac-Igl-Atmp, Ppa-OC2Y-Mapp, Pya-2Nal-3Abza, Pya-2Nal-Cyh, Pya-Bip-Atmp, Pya-OC2Y-Matp, Sin-2Nal-Atmp, Sul-Atmp, Tfmc-2Nal-Atmp, Tfmc-Arg, and Tha-BtA-Atmp.

17. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 16 to the animal.

18. (New) The method of Claim 17, wherein the animal is a human.

19. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: Dcg(Me)-2Nal-Atmp(Me), Dcg-2Nal-Ama, Dcg-2Nal-Apa, Dcg-2Nal-Atmp, Dcg-2Nal-Atpc, Dcg-2Nal-Atpm, Dcg-2Nal-mA2Bz, Dcg-2Nal-mA2Bz(Dcg), Dcg-2Nal-mA2Bz(Gun), Dcg-2Nal-mABz, Dcg-2Nal-Tpac, Dcg-Apa-Atmp, Dcg-BtA-Atmp, Dcg-D2Nal-Apa, Dcg-D2Nal-Atmp, Dcg-D2Nal-Atmp, Dcg-F5f-Atmp, Dcg-Igl-Apa, Dcg-Igl-APa(anisyl), Dcg-Igl-Aptp, Dcg-Igl-Aqu, Dcg-Igl-Atmp, and Dcg-Trp-Atmp.

20. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 19 to the animal.

21. (New) The method of Claim 20, wherein the animal is a human.

22. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: F5c-2Nal-3Ampy, F5c-2Nal-Ampz, F5c-2Nal-Aqd, F5c-2Nal-Atmp, F5c-2Nal-Dmab, F5c-2Nal-Dmp, F5c-2Nal-Tpac, F5c-3Pal-Atmp, F5c-Arg, F5c-BtA-Atmp, F5c-Cys(Meb)-Atmp, F5c-Iqa-Atmp, F5c-MC2Y-Atmp, F5c-MC2Y-Atmp, F5c-OC2Y-Dmab, F5c-OC2Y-Mapp, F5c-OC2Y-Matp, F5c-OCIY-Matp, F5c-Oic-Atmp, F5c-PaF(Mes)-Atmp, F5c-PFF-Dmab, F5c-Tic-Atmp, F5c-tLeu-Atmp, F5c-Tyr(Bzl)-Atmp, and F5c-Tyr-Atmp.

23. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 22 to the animal.

24. (New) The method of Claim 23, wherein the animal is a human.

25. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: 2Nap-PaF(Dcg), 2Nap-PaF(Mcg), Ac-OC2Y-Arg, Ac-PaF(Mcg)-Arg, Ac-PaF(Sin)-Arg, Ac-PdF-Arg, Cca-hPhe-Arg, Cin-hPhe-Arg, Dca-hPhe-Arg, Dpa-PFF-Arg, F5bz-F5F-Arg, Gun-2Nal-Arg, Gun-D2Nal-Apa, Gun-Eac-D2Nal-PgF, Gun-Ica-Arg, Mca-hPhe-Arg, Mcg-APa-mABz, Mse-Pac-BtA-Atmp, Mse-Pac-Igl-Atmp, Oic-Arg, Pac-hPhe-Arg, Pcc-hPhe-Arg, Ppa-hPhe-Arg, Ppa-PFF-Arg, Pya-hPhe-Arg, Pya-pABz-2Nal, Saa-hPhe-Arg, Seb-Pac-Igl-Atmp, Sin-F5F-3Pal, Ste-2-Nal-Arg, Sul-2Nal-Atmp, and Tfmc-pAPa-Asp-Atmp.

26. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 25 to the animal.

27. (New) The method of Claim 26, wherein the animal is a human.

28. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: Dcg-(D,L)Atc-Arg, Dcg-2Nal-3Pal, Dcg-2Nal-APa-Sud, Dcg-2Nal-Aqu, Dcg-2Nal-Arg, Dcg-2Nal-Asp, Dcg-2Nal-Asp(Aqu), Dcg-2Nal-Asp-(R,S)Aqu, Dcg-2Nal-Asp-(R,S)Aqu, Dcg-2Nal-Asp-Atmp, Dcg-2Nal-Glu-Atmp, Dcg-2Nal-pABz, Dcg-2Nal-PgF, Dcg-Ac6c-Arg, Dcg-Aic-Arg, Dcg-Apa-Arg, Dcg-Apa-mABz, Dcg-Asp-Aqu, Dcg-Atpc-Arg, Dcg-BtA-Arg, Dcg-D-2Nal-Arg, Dcg-D2Nal-mABz, Dcg-F5F-Arg, Dcg-hPhe-Arg, Dcg-Igl-Arg, Dcg-Ile-Arg, Dcg-p-Amb-Arg, Dcg-pAPa-Asp-Atmp, and Dcg-Trx-Arg.

29. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 28 to the animal.

30. (New) The method of Claim 29, wherein the animal is a human.

31. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: F5c-(N-Dmb)-Tyr(Bzl)-OMe, F5c-2Nal-Arg, F5c-2Nal-Arg-NH_2, F5c-2Nal-Cys(SO_3H)-Atmp, F5c-3,4F2F-Arg, F5c-3-Pal-Arg, F5c-Ana-Arg, F5c-APb-Arg, F5c-Bip-Arg, F5c-DhPhe-Arg, F5c-Dpr(Fbz)-Arg, F5c-Dpr(Paa)-Arg, F5c-F5F-Arg, F5c-hPhe-Arg, F5c-Lys(F5bz)-Arg, F5c-Lys{$(CH_3)_3$}-Arg, F5c-mABz-2Nal-Ampz, F5c-m-APa-Arg, F5c-MBC-Arg, F5c-MFF-Arg, F5c-NMF-Arg, F5c-OBS-Arg, F5c-OBT-Arg, F5c-OC2Y-Arg, F5c-Oic-Arg, F5c-pABz-2Nal, F5c-p-ABz-Arg, F5c-Pac-Arg, F5c-PaF(Ppa)-Arg, F5c-p-Amb-Arg, F5c-p-APa-Arg, F5c-pAPa-Asp-Atmp, F5c-PCF-Arg, F5c-PFF-Arg-NH_2, F5c-Phe-Arg, F5c-PNF-Arg, F5c-Thi-Arg, F5c-Tic-Arg, F5c-Trp-Arg, and F5c-Tyr-Arg.

32. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 31 to the animal.

33. (New) The method of Claim 32, wherein the animal is a human.

34. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: Aaa-DIgl-hPhe-Arg, Aaa-DPhe-hPhe-Arg, Aaa-DTic-hPhe-Arg, Aaa-Pac-hPhe-Arg, Ac-PaF(Dcg)-p-ABz-Arg, Ac-PaF(Mcg)-p-ABz-Arg, Dcg-2Nal-Atpc-Arg, Dcg-Gly-Cmp-Arg, Dcg-Gly-Oic-Arg, DIgl-Oic-Arg, F5c-DArg-2Nal-Arg-Matp, F5c-DArg-hPhe-Arg, F5c-Gly-mABz-2Nal, F5c-pABz-2Nal-Arg, F5c-p-Amb-APa-Arg, Inp-Dpr(Dcg-2Nal), and Pya-Gly-mABz-Aqd.

35. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 34 to the animal.

36. (New) The method of Claim 35, wherein the animal is a human.

37. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: Aaa-Ser-Pac-hPhe-Arg, Ac-DArg-Arg-Aud-DF5F-Oic-Arg, Ac-Pac-Gly-m-Abz-2Nal-Arg, Ac-Pac-Gly-mABz-Nal, Arg-DNMF-DTrp-Phe-DTrp-Leu, Arg-Eac-DIgl-Ana-Arg, Ava-Igl-Ser-DF5F-Oic-Arg, DArg-Arg-Aud-DIgl-PFF-Arg, D-Arg-Arg-Aud-PaF(F5c)-Arg, Dcg-DIgl-Oic-Arg, Dcg-Pac-Gly-mABz-2Nal, Dcg-Pac-Gly-m-ABz-2-Nal-Arg, DNMF-DTrp-Phe-DTrp-LeuΨ(CH_2NH)Leu-NH_2, F5c-DArg-Arg-Aud-DIgl-hPhe-Arg, F5c-DArg-Arg-Aud-DIgl-PFF-Arg, F5c-DArg-Arg-Aud-DTic-hPhe-Arg, F5c-DArg-Arg-Aud-DTic-Oic-Arg, F5c-DArg-Arg-Aud-Pac-2Nal-Arg, F5c-DArg-Aud-OC2Y-Gly-Atmp, F5c-DArg-Eac-2Nal-Arg, F5c-DArg-Eac-hPhe-Arg, F5c-DArg-PFF-Arg-PFF-NH_2, F5c-Gly-mABz-2Nal-Arg, F5c-Lys-Ser-DF5F-Oic-Arg, Gly-Igl-Ser-DIgl-Oic-Arg, Gun-Eac-DIgl-Oic-Arg, Igl-Ser-DIgl-Oic-Arg, Mcg-Pac-Gly-m-ABz-2-Nal-Arg, and Ser-DIgl-Oic-Arg.

38. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 37 to the animal.

39. (New) The method of Claim 38, wherein the animal is a human.

40. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: Aca-c[DArg-Arg-Pro-Hyp-Gly-Thi-Ser-Nig-Oic-Arg], α-DDD-(c[Lys-DArg-Arg-Pro-Hyp-Gly-Thi-Ser-DF5F-Oic-Arg])$_2$, c[Add-DArg-F5F-Arg], c[Arg-DNMF-DTrp-Phe-DTrp-Leu], c[Ava-Igl-Ser-DF5F-Oic-Arg], c[Bala-DArg-Arg-Eac-Ser-DF5F-Oic-Arg], c[DArg-Arg-Add-DF5F-Oic-Arg], c[DArg-ArgAdd-DIgl-PFF-Arg], c[DArg-Arg-Add-Ser-DF5F-Oic-Arg], c[DArg-Arg-Add-Ser-DIgI-PFF-Arg], c[DArg-Arg-Aud-

DF5F-Oic-Arg], c[DArg-Arg-Aud-Dlgl-PFF-Arg], c[DArg-Arg-Aud-Ser-DF5F-Oic-Arg], c[DArg-Arg-Ava-Ser-DF5F-Oic-Arg], c[DArg-Arg-Ava-Ser-DIgl-PFF-Arg], c[DArg-Arg-Eac-DF5F-Oic-Arg], c[DArg-Arg-Eac-DIgI-PFF-Arg], c[DArg-Arg-Eac-Ser-DF5F-Nc7G-Arg], c[DArg-Arg-Eac-Ser-DF5F-Oic-Arg], c[DArg-Arg-Pro-Hyp-Gly-Igl-Ser-Dlgl-Oic-Arg], c[DNiK-Arg-Eac-Ser-DF5F-Oic-Arg], c[DNiK-PzO-Eac-Ser-DF5F-Oic-Arg], and c[Suc-DArg-Arg-Eac-Ser-DIgI-PaF-Arg].

41. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 40 to the animal.

42. (New) The method of Claim 41, wherein the animal is a human.

43. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: (F5c-DArg-Igl-Arg)$_2$-DDA, Btac-(2Nal-Atmp)$_2$, Btac-(2Nal-Atmp)$_3$, DDD-(2Nal-Asp-Atmp)$_2$, DDD-(3Pal-Nal-Cyh)$_2$, DDD-(Arg-2Nal-Atmp)$_2$, DDD-(BtA-Atmp)$_2$, DDD-(DArg-2Nal-Atmp)$_2$, DDD-(DArg-OC2Y-Dmab)$_2$, DDD-(His-1Nal-Atmp)$_2$, DDD-(Pac-2Nal-Ampz)$_2$, DDD-(Pac-2Nal-Api)$_2$, DDD-(Pac-2-Nal-Dmp)$_2$, DDD-(Pac-INal-Atmp)$_2$, DDD-[Arg(Tos)-2Nal-Atmp]$_2$, DDD-[DArg-2Nal-Atmp]$_2$, Dtp-(2Nal-Atmp)$_2$, DTP-(DArg-Igl-Arg-Matp)$_2$, EDTA-(OC2Y-Atmp)$_4$, HDD-(DArg-Igl-Arg-Matp)$_2$, HOOC-DDD-Pac-2Nal-Ampz, SBEC-(DArg-2Nal-Arg-Matp)$_2$, ζ-SUB-(ApC-F5F-Arg)$_2$, TDIM-(2Nal-Atmp)$_2$, TDIM-(2Nal-Atmp)$_2$, TDIM-(2Nal-Atmp)$_2$, TDIM-(2Nal-DMM)$_2$, TDIM-(BtA-Atmp)$_2$, TDIM-(Igl-Atmp)$_2$, TDIM-(Igl-Atmp)$_2$, and TDIM-BtA-Atmp.

44. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 43 to the animal.

45. (New) The method of Claim 44, wherein the animal is a human.

46. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: α-DDD-(ApC-F5F-Arg)$_2$, α-DDD-(Lys-DArg-2Nal-Atmp)$_2$, DDD-(DArg-2Nal-Arg)$_2$, DDD-(DArg-2Nal-Arg-Dmab)$_2$, DDD-(DArg-2Nal-Arg-NH_2)$_2$, DDD-(DArg-BtA-Arg-Matp)$_2$, DDD-(DArg-F5F-Arg-Dmab)$_2$, DDD-(DArg-F5F-Arg-Dpea)$_2$, DDD-(DArg-F5F-Arg-Matp)$_2$, DDD-(DArg-F5F-DArg)$_2$, DDD-(DArg-F5F-DArg-NH_2)$_2$, DDD-(DArg-hPhe-Arg)$_2$, DDD-(DArg-hPhe-Arg-NH_2)$_2$, DDD-(DArg-Igl-Mapp)$_2$, DDD-(DArg-OBS-Arg)$_2$, DDD-(DArg-OC2Y-Arg)$_2$, DDD-(DArg-PFF-Arg)$_2$, DDD-(DArg-PFF-Arg-

Dpea)$_2$, DDD-(DArg-PFF-Arg-Dpma)$_2$, DDD(DArg-PFF-Arg-Dpma)-DArg-PFF-Arg-NH$_2$, DDD-(DArg-PFF-Arg-NH$_2$)$_2$, DDD-(DIgl-hPhe-Arg)$_2$, DDD-(DNiK-F5F-Arg)$_2$, DDD-(DPhe-hPhe-Arg)$_2$, DDD-(DPzK-F5F-Arg)$_2$, DDD-(DPzO-F5F-Arg)$_2$, DDD-(pABz-2Nal-Arg)$_2$, DDD-(pABz-2Nal-Arg-NH$_2$)$_2$, DDD-(p-ABz-hPhe-Arg)$_2$, DDD-(Pac-2Nal-Arg)$_2$, DDD-(Pac-2Nal-Arg-NH$_2$)$_2$, DDD-(Pac-2Nal-Atmp)$_2$, DDD-(Pac-2Nal-DArg-NH$_2$)$_2$, DDD-(Pac-hPhe-Arg)$_2$, DDD-(Pac-Igl-Atmp)$_2$, and DDD-(PzO-F5F-Arg)$_2$.

47. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 46 to the animal.

48. (New) The method of Claim 47, wherein the animal is a human.

49. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: DDD-(Arg-DIgl-Oic-Arg)$_2$, DDD-(Arg-DIgl-Oic-Arg-OMe)$_2$, DDD-(DArg-Arg-Aud-DF5F-Oic-Arg)$_2$, DDD-(DArg-Arg-Aud-DIgl-hPhe-Arg)$_2$, DDD-(DArg-Arg-Aud-DIgl-PFF-Arg)$_2$, DDD-(DArg-Arg-Aud-DTic-hPhe-Arg)$_2$, DDD-(DArg-Arg-Aud-DTic-Oic-Arg)$_2$, DDD-(DArg-Arg-Aud-Pac-2Nal-Arg)$_2$, DDD-(DArg-Arg-Aud-Pac-2Nal-Atmp)$_2$, DDD-(DArg-Arg-Aud-Pac-2Nal-DArg-NH$_2$)$_2$, DDD-(DArg-Arg-Aud-Pac-hPhe-Arg)$_2$, DDD-(DArg-Arg-Aud-Pac-PaF(Fbz)-Arg)$_2$, DDD-(DArg-Arg-Aud-PaF(F5c)-Arg)$_2$, DDD-(DArg-F5F-Arg-PaF-NH$_2$)$_2$, DDD-(DArg-PFF-Arg-PFF-NH$_2$)$_2$, DDD-(Eac-Arg-DIgl-Oic-Arg)$_2$, DDD-(Eac-Arg-DIgl-Oic-Arg)$_2$, DDD-(Eac-Arg-DIgl-Oic-Arg-OMe)$_2$, DDD-(Eac-Eac-Arg-DIgl-Oic-Arg)$_2$, DDD-(Lys-Pac-Gly-mABz-2Nal-NH$_2$)$_2$, and DDD-(Lys-Ser-DF5F-Oic-Arg)$_2$.

50. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 49 to the animal.

51. (New) The method of Claim 50, wherein the animal is a human.

52. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: α-DDD-(Lys-DNMF-DTrp-Phe-DTrp-LeuΨ(CH$_2$NH)Leu-NH$_2$)$_2$, α-DDD-(Lys-B9430-OMe), DDD-(DArg-Arg-Add-Ser-DIgl-Oic-Arg)$_2$, DDD-(DArg-Arg-Add-Ser-DIgl-PFF-Arg)$_2$, DDD-(DArg-Arg-Aud-Ser-DF5F-Oic-Arg)$_2$, DDD-(DArg-Arg-Aud-Ser-DIgl-Oic-Arg)$_2$, DDD-(DArg-Arg-Eac-Ser-DF5F-Nc7G-Arg)$_2$, DDD-(DArg-Arg-Eac-Ser-DF5F-Oic-Arg)$_2$, DDD-(DArg-Arg-Eac-Ser-DF5F-PFF-Arg)$_2$, DDD-(DArg-

Arg-Eac-Ser-DIgl-Oic-Arg)$_2$, DDD-(DArg-Arg-Eac-Ser-DIgl-PFF-Arg)$_2$, DDD-(DArg-Arg-Eac-Ser-DTic-Oic-Arg)$_2$, DDD-(DmK-DArg-Arg-Eac-Ser-DF5F-Oic-Arg)$_2$, DDD-(DNiK-Arg-Eac-Ser-DF5F-Oic-Arg)$_2$, DDD-(DNiK-PzO-Eac-Ser-DF5F-Oic-Arg)$_2$, and DDD-(DNMF-DTrp-Phe-DTrp-LeuΨ(CH_2NH)Leu-NH_2)$_2$.

53. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 52 to the animal.

54. (New) The method of Claim 53, wherein the animal is a human.

55. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: (DArg-Arg-Pro-HYP)$_2$-Dpr-Igl-Ser-DIgl-Oic-Arg, (Gun)$_2$-BApG-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, 33Dp-DArg-Arg-Aud-Ser-DF5F-Oic-Arg, Aaa-DArg-Arg-Aud-Ser-DF5F-Oic-Arg, Aaa-DArg-Arg-Eac-Ser-DF5F-Oic-Arg, Aaa-DArg-Arg-Pro-Hyp-Gly-(D,L)DMF-Ser-DTic-Oic-Arg, Aaa-DArg-Arg-Pro-Hyp-Gly-(D,L)DMF-Ser-DTic-Oic-Arg, Aca-DArg-Arg-Aud-Ser-DF5F-Oic-Arg, Aca-DArg-Arg-Eac-Ser-DF5F-Oic-Arg, Aca-DArg-Arg-Pro-Hyp-Gly-Thi-Ser-(D,L)Igl-Oic-Arg, α-DDD-(Lys-DNMF-DTrp-Phe-DTrp-LeuΨ(CH_2NH)Leu-NH_2)$_2$, Arg-Pro-Lys-Pro-DTrp-Gln-DTrp-Phe-DTrp-LeuΨ(CH_2NH)Leu-NH_2, Arg-Pro-Pro-Gly-Phe-Thr-DTic-Oic-Arg, Arg-Pro-Pro-Gly-Phe-Thr-DTic-Oic-NH_2, BApG-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, DArg-Arg-Nig-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, DArg-Arg-NMF-Hyp-Gly-Thi-Ser-DIgl-Oic-Arg, DArg-Arg-Pro-Hyp-Gly-CpG-Ser-DCpG-CpG-Arg, DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Nc7G-Arg, DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg-Eac-Eac-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg-NH_2, DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-PFF-Arg, DArg-Arg-Pro-Hyp-Gly-Phe-Ser-DCpG-CpG-Arg, DArg-Arg-Pro-Hyp-Gly-Thi-Ser-CpG-DCpG-DArg, DArg-Arg-Pro-Hyp-Gly-Thi-Ser-DTic-Nc6G-Arg, DArg-Arg-Pro-Lys-Pro-DTrp-Gln-DTrp-Phe-DTrp-LeuΨ(CH_2NH)Leu-NH_2, DArg-Arg-Pro-MeP-Gly-CpG-Ser-DCpG-CpG-Arg, DArg-Pro-Lys-Pro-DTrp-Qln-DTrp-Phe-DTrp-LeuΨ(CH_2NH)Leu-NH_2, DArg-PzO-Pro-Hyp-Gly-Igl-Ser-DF5F-Oic-Arg, Dhq-DArg-Arg-Pro-Hyp-Gly-CpG-Ser-DCpG-CpG-Arg, Dmac-DArg-Arg-Aud-Ser-DF5F-Oic-Arg, DNiK-PzO-Pro-Hyp-Gly-Igl-Ser-DF5F-Oic-Arg, DNiK-PzO-Pro-Hyp-Gly-Igl-Ser-DF5F-Oic-Arg, DNiK-PzO-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, F5bz-DArg-Arg-Aud-Ser-DF5F-Oic-Arg, F5c-DArg-Arg-Add-Ser-DIgl-Oic-Arg, F5c-DArg-Arg-Aud-Ser-DF5F-Oic-Arg, F5c-DArg-Arg-Aud-Ser-DIgl-Oic-Arg, F5c-DArg-Arg-Eac-

Ser-DF5F-Oic-Arg, F5c-DArg-Arg-Eac-Ser-DF5F-PFF-Arg, F5c-DArg-Arg-Eac-Ser-DIgl-Oic-Arg, F5c-DArg-Arg-Eac-Ser-DTic-Oic-Arg, F5c-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DF5F-PFF-Arg, F5c-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-PFF-Arg, F5pa-DArg-Arg-Aud-Ser-DF5F-Oic-Arg, Gun2-BApg-DArg-Arg-Eac-Ser-DF5F-Oic-Arg, Hyp-Gly-Igl-Ser-DIgI-Oic-Arg, Leu-DTrp-Phe-DTrp-DNMF-Eac_2-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, Leu-Leu-DTrp-Phe-DTrp-DNMF-Eac_2-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, Lys-Lys-Arg-Pro-Hyp-Gly-Igl-Ser-DTic-ChG, Moti-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, and Moti-DArg-Arg-Pro-Hyp-Gly-Thi-Ser-DIgl-Oic-Arg.

56. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 55 to the animal.

57. (New) The method of Claim 56, wherein the animal is a human.

58. (New) A compound or a pharmaceutically acceptable salt thereof represented by a formula selected from the group consisting of: α-DDD-(Lys-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-$Arg)_2$, α-Sub-(Lys(εFlu)-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg)-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, DDD-(DmK-PzO-Pro-Hyp-Gly-Igl-Ser-DF5F-Oic-$Arg)_2$, DDD-(Lys-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-$Arg)_2$, DTP-(DArg-Arg-Eac-Ser-DF5F-Nc7G-$Arg)_2$, EGS-(DArg-Arg-Eac-Ser-DF5F-Nc7G-$Arg)_2$, EGS-(DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-$Arg)_2$, εSUB-(Lys-DArg-Arg-Eac-Ser-DF5F-Nc7G-$Arg)_2$, SBEC-(DArg-Arg-Eac-Ser-DF5F-Nc7G-$Arg)_2$, Sub-(Arg-DNMF-DTrp-Phe-DTrp-Leu)-α-Lys-DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg, SUB-(DArg-Arg-Eac-Ser-DF5f-Nc7G-$Arg)_2$, SUIM-(DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-Arg-$NH_2)_2$, TDIM-(DArg-Arg-Pro-Hyp-Gly-Igl-Ser-DIgl-Oic-$Arg)_2$, and TDIM-(DArg-Arg-Pro-Hyp-Gly-Thi-Ser-DIgl-Oic-$Arg)_2$.

59. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering the compound or salt of Claim 58 to the animal.

60. (New) The method of Claim 59, wherein the animal is a human.

61. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

2,3,4,5,6-Pentafluorocinnamoyl — D-Arginine — Arginine — Proline — Trans-4-hydroxyproline — Glycine — α-2-Indanylglycine — Serine — D-α-2-Indanylglycine — Octahydroindole-2-carboxylic acid — Arginine.

62. (New) The method of Claim 61, wherein the animal is a human.

63. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

2,3,4,5,6-Pentafluorocinnamoyl — Lysine — Lysine — Arginine — Proline — Trans-4-hydroxyproline — Glycine — α-Cylcopentylglycine — Serine — D-1,2,3,4-Tetrahydroisoquinoline-3-carboxylic acid — α-Cyclopentylglycine.

64. (New) The method of Claim 63, wherein the animal is a human.

65. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

2,3,4,5,6-Pentafluorocinnamoyl — D-ε-Nicotinoyllysine — 4-(2-pyrazine carboxyl)ornithine — Proline — Trans-4-hydroxyproline — Glycine — α-2-Indanylglycine — Serine — D-α-2-Indanylglycine — Octahydroindole-2-carboxylic acid — Arginine.

66. (New) The method of Claim 65, wherein the animal is a human.

67. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

2,3,4,5,6-Pentafluorocinnamoyl — p-Fluorophenylalanine — Arginine.

68. (New) The method of Claim 67, wherein the animal is a human.

69. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

Dodecanedioyl — (D-Arginine — Pentafluororphenylalanine — Arginine)$_2$.

70. (New) The method of Claim 69, wherein the animal is a human.

71. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

2,3,4,5,6-Pentafluorocinnamoyl — O-2,6-Dichlorobenzyltyrosine — 4-Amino-2,2,6,6-tetramethylpiperidine.

72. (New) The method of Claim 71, wherein the animal is a human.

73. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

Dodecanedioyl — (D-Arginine — α-2-Indanylglycine — Arginine — 4-(Methylamino)-2,2,6,6-tetramethylpiperidine)$_2$.

74. (New) The method of Claim 73, wherein the animal is a human.

75. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, comprising the structure:

Ethylenediaminetetraacetyl — (O-2,6-Dichlorobenzyltyrosine — 4-(Methylamino)-2,2,6,6-tetramethylpiperidine)$_4$.

76. (New) The method of Claim 75, wherein the animal is a human.

77. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

(5-dimethylamino-1-naphthalenesulfonyl — D-Arginine — α-2-Indanylglycine — Argine)$_2$ — 1,10-Decanediamine.

78. (New) The method of Claim 77, wherein the animal is a human.

79. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

Dodecanedioyl — (D-Arginine — β-2Naphthylalanine — Arginine — 4-(methylamino)-2,2,6,6-tetramethylpiperidine)$_2$.

80. (New) The method of Claim 79, wherein the animal is a human.

81. (New) A method to inhibit tumor growth in an animal in need of such inhibition, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure:

Decanedioyl —

(— 4-Aminocinnamic acid — α-2-Indanylglycine — 4-amino-2,2,6,6-tetramethylpiperidine)$_1$

(— Lysine — D-Arginine — Arginine — Proline — Trans-4-hydroxyproline — Glycine — α-2-Indanylglycine — Serine — D-α-2-Indanylglycine — Octrahydroindole-2-carboxylic acid — Arginine)$_1$.

82. (New) The method of Claim 81, wherein the animal is a human.

83. (New) A method to inhibit tumor growth in an animal in need of such inhibition, or induce apoptosis of cancer cells, comprising administering a compound, or a pharmaceutically acceptable salt thereof, of the structure: ACA1-(ε-Aminocaproic acid)$_2$-ACA2, wherein ACA1 and ACA2 are each independently a compound represented by a formula selected from the group consisting of:

2,3,4,5,6-Pentafluorocinnamoyl — D-Arginine — Arginine — Proline — Trans-4-hydroxyproline — Glycine — α-2-Indanylglycine — Serine — D-α-2-Indanylglycine — Octahydroindole-2-carboxylic acid — Arginine,

2,3,4,5,6-Pentafluorocinnamoyl — Lysine — Lysine — Arginine — Proline — Trans-4-hydroxyproline — Glycine — α-Cylcopentylglycine — Serine — D-1,2,3,4-Tetrahydroisoquinoline-3-carboxylic acid — α-Cylcopentylglycine,

2,3,4,5,6-Pentafluorocinnamoyl — D-ε-Nicotinoyllysine — 4-(2-pyrazine carboxyl)ornithine — Proline — Trans-4-hydroxyproline — Glycine — α-2-Indanylglycine — Serine — D-α-2-Indanylglycine — Octahydroindole-2-carboxylic acid — Arginine,

2,3,4,5,6-Pentafluorocinnamoyl — p-Fluorophenylalanine — Arginine, and

2,3,4,5,6-Pentafluorocinnamoyl — O-2,6-Dichlorobenzyltyrosine — 4-Amino-2,2,6,6-tetramethylpiperidine.

84. (New) The method of Claim 83, wherein the animal is a human.

REMARKS

Applicants respectfully request entry of the instant Amendment to the specification of the continuation application filed herewith. The Amendment revises the specification at page 1 to add a priority claim and a reference to government rights in the application. The specification includes Table 1 at page 20 which has been revised to refer to SEQ ID NO: 1, in accordance with similar amendments in the parent application. None of these revisions add new matter, and therefore entry of the instant Amendment to the specification is believed proper at this time and is respectfully requested. The computer readable form of the sequence listing in this application is identical with that filed in Application Number 09/378,019, filed August 19, 1999. In accordance with 37 CFR 1.821(e), please use the last-filed computer readable form filed in that application as the computer readable form for the instant application. It is understood that the Patent and Trademark Office will make the necessary change in application number and filing date for the computer readable form that will be used for the instant application. A paper copy of the Sequence Listing was included in a separately filed amendment of the parent application for incorporation into the specification.

Applicants respectfully request entry of the instant Amendment to the claims of the continuation application filed herewith, adding new Claims 16-84 as set forth above. The subject matter of the new claims is fully supported in the instant specification and thus there is no issue of new matter. In particular, new Claims 16-60 are directed to preferred species of compounds, as disclosed in instant Tables 1-3, as well as methods of using those compounds to inhibit tumor growth and/or induce apoptosis of cancer cells, in animals, and particularly in humans. To facilitate efficient prosecution, compounds having similar characteristics have been grouped together in the claims. New Claims 61-84 are directed to methods of using the recited compounds to inhibit tumor growth and/or induce apoptosis of cancer cells, in animals, and particularly in humans. Claims directed to the recited compounds themselves were allowed in the parent case. Therefore, since the subject matter of the new claims is fully supported in the specification, entry of the instant Amendment to the claims is believed proper at this time and is respectfully requested.

Applicants respectfully request examination of the instant application on the merits. The Examiner is respectfully invited to call the undersigned with any questions regarding this application.

Respectfully submitted,

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Dated: 28 DEC 2001

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